Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of

Review of the Emergency Alert System	)	WC Docket No. 04-296
	)	
	)	

Comments of the Rehabilitation Engineering Research Center on Telecommunications Access

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I. Introduction

The Rehabilitation Engineering Research Center on Telecommunications Access (RERC-TA) submits these comments in response to the Federal Communications Commission's (FCC or Commission) Notice of Proposed Rulemaking (NPRM) on the Review of the Emergency Alert System. The RERC-TA is a joint project of Gallaudet University and the Trace Center of the University of Wisconsin, Madison and is funded by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education. The primary mission of the RERC-TA is to make communications technologies accessible to and usable by people with disabilities. The investigators of the center have served on several federal advisory committees on accessibility of equipment and services, and currently serve on the Network Reliability and Interoperability Council. We have commented on numerous FCC proceedings regarding the accessibility of "mainstream" technology and have presented at Summits hosted by the FCC. Some of the RERC staff were involved in the specification and

testing of the accessibility procedures for people who are deaf as these are contained in the present emergency alert system.

Our comments are directed toward issues that would support improved and uniform access to emergency alerts by people with disabilities.

We commend the Commission for explicitly seeking comment on emergency-alert issues affecting people with disabilities. As the Commission has noted in this NPRM, an Executive Order issued by the President on July 22, 2004 underscores the importance of accessibility of emergency alerts to people with disabilities. The intent of the Executive Order is "to ensure that the Federal Government appropriately supports safety and security for individuals with disabilities in situations involving disasters, including earthquakes, tornadoes, fires, floods, hurricanes, and acts of terrorism." The directive calls for consideration of unique issues affecting people with disabilities and coordination of efforts at various levels of government[1]. The Emergency Alert System, upgraded and expanded to be more accessible to all and usable by people with disabilities, is an important component of emergency preparedness. The EAS is potentially an important set of channels for communication from the government to citizens in local and regional as well as national emergencies.

II. Responses to the NPRM

A. General Considerations

In assessing how to make government emergency alerts available and accessible, there needs to be an analysis of how to reach the most people at varying times of the day, including waking them while asleep for the most serious emergencies; and how to

[1] The full text of the Executive Order can be found at: http://www.whitehouse.gov/news/releases/2004/07/20040722-10.html

provide ways for people to elect to receive additional information in a modality that is accessible to them. The redundancy recommended in a report on the Common Alerting Protocol (Botherell, 2003[2]) would benefit people with disabilities along with the population in general. As stated in the report, "The key to effective public warning lies not in perfecting one system or technology, but in using all available means of communication in a coordinated and effective way." Most people use different modalities and technologies for receiving communication and information, depending on the situation and their location at the time. The ability to be flexible in modality is critically important to alerting people with disabilities. It will also alert more of the general population faster, with fewer people ending up misinformed because they have heard third- or fourth-hand information.

B. Federal/State Program Responsibility

Inspired by recent problems in the emergency response of the electric power grid, we are inclined to believe that having a single federal entity responsible for the management, consistency, and availability of the EAS system is the best choice. The origination of alerts with more local administrations is necessary and would be improved by instituting a more specific and consistent system-wide incident classification doctrine. The Department of Homeland Security does seem to be the logical home for the running of the EAS, given its other roles in emergency management. We note that an agency with this responsibility needs to have in-house expertise in disability issues sufficient to ensure accessibility in implementation of systems. Few agencies have this depth of expertise. However, we are pleased to see that the Department of Homeland Security

[2] Botherell, A. (September 11, 2003). An Advanced EAS Relay Network Using the Common Alerting Protocol. White Paper. http://www.incident.com/cap/docs/aps/Advanced_EAS_Concept.pdf

has set up the Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities, and that this agency is gearing up with projects and staffing to provide expertise for safeguarding accessibility. We recommend that the FCC's Disability Rights Office be represented on the Interagency Coordinating Council and that staff of NOAA who have worked on making the NOAA Weather Radio system accessible also be involved.

It has been our experience that public-private partnerships are beneficial in ensuring that new policies are implemented effectively. The Partnership for Public Warning (PPW) has been doing a valuable public service through its work on the Common Alerting Protocol, through its assessment of the EAS, and through bringing industry and subject matter experts together. We support the idea of public funding for PPW's work and support their leading this effort.

We agree that the voluntary nature of EAS alerts (except if ordered by the President) leads to disuse of the system in some areas and uneven implementation. We believe that state-level planning is necessary and that accessibility requirements must be made part of the state plans.

Carriage of EAS alerts should be made mandatory, but there needs to be better encoding of the information to trigger mandatory alerts, so that the public does not become desensitized if alerted to too many minor incidents, or receive alerts after the emergency has passed. We ask that sociological research be utilized, and that more up-to-date research be done to understand the public's response to alerts on newer technologies, and the ways in which people communicate and obtain information after

the alert. These studies need to include people with disabilities, including those who are elderly.

Uniform national guidelines that include accessibility provisions are needed. As the use of technology has changed, the accessibility of the current EAS has changed. The system needs to be accessible to all even as technology changes.

C. EAS Structure and EAS Codes

We agree that the message-relay structure of the EAS is outdated and needs to be changed so that all media and communication technologies can receive the information as quickly as possible. We also agree that more codes are needed. We suggest that industry alone should not bear all of the costs of upgrading the U.S. official alerting system. When this is the case, we as a society tend to get less than we need; for example, very small cable systems have different requirements for EAS accessibility than large cable systems because of the understandable concern about burdens on small businesses. But the person with a disability who has the misfortune to subscribe to very small cable system (e.g., because a small system serves the person's apartment building) may find that he or she has limited or no access to the EAS. This is a function that government should help to support and stimulate through funding. This is yet another reason for looking to the Department of Homeland Security for oversight, as the FCC is presently not authorized to distribute this type of funding.

D. Expanding EAS Requirements to Other Services

The FCC asks about the extent to which EAS requirements should be expanded to newer technologies, including digital television. Insofar as the FCC has ordered the phase-out of analog television and the phase in of digital television, obviously digital

television must carry EAS messages. When Congress decided to grant broadcasters digital television spectrum at no cost, it understood that along with these free licenses would come an obligation to meet certain public interest mandates. One of these is for digital broadcasters to meet the emergency needs of its viewers. Where these broadcasters make the decision to broadcast multiple streams on the frequencies they have been awarded, they are making a business decision designed to maximize profit. In this situation, their public interest obligation to meet the emergency needs of their viewing audience must extend to carrying EAS alerts on all of those streams. Force tuning should not be necessary.

E. Alternate Public Alert and Warning Mechanisms

The public has many entertainment alternatives to watching live TV and listening to radio. Tens of millions of Americans are at any given time in the presence of a mobile device and/or a computer screen. Telecommunications technologies and the Internet are obviously underutilized for alerting the public. Over time the EAS should move to a more interactive format; that is, once alerted, interactive methods should be utilized to allow the public to seek additional information in the same modality as the original message. For example, an incoming text message on a mobile device could include a prompt for "more" and more information could be called up in text. An incoming voice message over a mobile phone could prompt for "more" and more information could be delivered by voice. These and other interactive technologies need to include voice, text (including email and web among other methods), and as possible, video options.

Historically the EAS and its predecessors were driven by the power of emerging technologies to reach people quickly in times of crisis. The focus has been on radio,

broadcast television, and later cable television. It has long been recognized that on average, people attend to these broadcast technologies for only a small part of their day, and this limitation of the EAS is noted in the NPRM. People who have disabilities of hearing and/or sight generally attend to these technologies even less than others, because the technologies are only marginally accessible or completely inaccessible. For example, radio is completely inaccessible to people who are deaf and to many who are hard of hearing, and yet radio is a particularly important medium during power outages because of the wide availability of battery powered radios and the ability to use an automobile radio. Television is not an accessible medium to people who are blind, and during emergencies, on-screen text and graphics that carry important facts are not available in speech form so that blind people can access the information. As noted in comments by the American Foundation for the Blind, the requirement in Section 79.2 to read emergency information ("open" video description) that appears on the screen is routinely ignored, despite repeated reminders issued by the Commission.[3]. And unfortunately, local emergency coverage on television is often inaccessible to people who rely on captions, despite FCC requirements contained at Section 79.2.

Moreover, public address systems in buildings, transportation depots, hospitals, and other facilities are inaccessible to people who are deaf or hard of hearing. Face to face communication is often not possible, so even word-of-mouth cannot be used. These problems underscore the need to use as many technologies as possible in order to fill some of the important gaps in access to emergency information.

[3] See e.g, ."Reminder to Video Programming Distributors of Obligation to Make Emergency Information Accessible to Persons with Hearing or Vision Disabilities," Public Notices, DA 03-2361 (July 18, 2003); DA 04-1595 (May28, 2004)

To reach people who have disabilities on a more equitable basis, not only does EAS delivery and Section 79.2 delivery of accessible audio and video information need to be improved, but other technologies – particularly Internet and mobile devices -- must be used in addition to these original communication media. As noted in the NPRM, the voluntary expansion of mass-alerting functions into additional technologies, including cell phones and pagers, has not been driven by the marketplace, despite flexibility built into the current generation of EAS. These newer technologies should not be viewed or classified as "alternative" since they are very much mainstream technologies that have greatly extended the possibilities for government alerts to the American public. Because tens of millions are connected to the Internet during the workday and tens of millions are connected via mobile devices, these technologies must be included in the EAS in order to reach people where they are. Location-based systems that are being built into mobile networks for E-9-1-1 implementation should be utilized for allowing greater precision in the delivery of alerts based on the geographic location of the mobile device.

EAS alerting is based on the media concept that the person is watching or listening to the media source and will receive the message as part of the viewing/listening experience. However, when people are not attending to a media source, as when mobile, asleep, or otherwise busy, the device needs to be activated. We suggest that alerting by phone and messaging be done with a unique signal (tone for phones, vibration pattern for "silent" mode of phones and pagers) that is recognized as an emergency signal and that is used only for situations of great urgency. If such an approach is taken, the audio signal should sweep across frequencies and be repeated so that it attracts attention as well as being able to be heard by hard of hearing people.

Since the time spent in the car is quite long for many Americans, passengers and drivers needs to have a way of receiving EAS messages. The car radio is the usual technology for this but radio is not accessible to people who are deaf and hard of hearing. We recommend use of the Radio Band Data Services in the EAS so that text alerts can appear on car radios that have displays.

We support the Common Alerting Protocol approach as one that supports accessibility by ensuring that everyone receives the same message and not a truncated version. It supports flexible modalities and redundancy of outlet for messages. With proprietary protocols, the opportunities for accessibility are more limited because the owner of the technology must agree to implement accessibility provisions; the CAP provides an open platform for flexible-modality alerts.

We also support greater government efforts to have devices automatically turn on in the event of a serious emergency alert. NOAA Weather Radios have this feature and an industry standard has been developed by the Consumer Electronics Association for a Public Alert Receiver that includes this feature. We recommend that this feature become required for various types of consumer electronics that are capable of receiving broadcasts and messages, including car radios.

Another receiver-issue is support of closed caption decoding in small, battery operated televisions. Although the current emergency alert system does not directly address closed captioning, the importance of closed captioning of emergency information cannot be overstated. During power outages, the radio is unavailable to people who are deaf and so caption decoding in battery operated televisions is needed as a requirement. Although some of these televisions are below the size cutoff (13 inches diagonally for

analog receivers or 7.8 inches vertically for digital receivers) that triggers the decoder requirement, these devices should be required to include closed caption decoding capability.

F. Public Warnings and Alerts for Individuals with Disabilities

We have commented above on the many EAS issues that pertain to accessibility. Our point is that virtually all considerations with regard to the EAS can, in the end result, have an effect on the accessibility and availability of a message when it is sent out from the government.

Particular care needs to be taken to ensure that both existing and new technologies for alerting are accessible. There can be an "accessibility drift" over time that leads to erosion of a requirement's intent. For example, blind people have less access to televised EAS messages than they used to. Since breaks in the audio portion of programming are unpopular and discourage voluntary use of the EAS, visual information in the form of crawls or other screen graphics have become more commonplace. When a voice message is not included in the alert, the result is that people who are blind may hear the audio alert signal "squawk" and know only that something is wrong, while being unable to learn immediately what the warning is about. In other words, they are not served by the EAS as currently implemented, and are deprived of the ability to respond in a timely fashion to an emergency. The same type of problem occurs when deaf people see a breaking news story and get only a headline without captions or specific information on the event.

Sometimes laudable attempts to make emergency information available in multiple modalities can fall short of full accessibility. For example, The NOAA Weather Radio has a text mode and text radios have been developed for access to weather alerts.

Officials at the National Weather Service are to be commended for encouraging the development of this capability and for doing outreach to the deaf and hard of hearing communities. But it is unfortunate that the full text message of the alert (counterpart to the audio message) is not provided. Only the truncated statements based on the SAME codes are included. This factor makes these products less attractive as warning devices. This unfortunate situation is also ironic, because the original modality for the message is text which is then converted to synthetic speech. To make full text be sent across the NWR system, text servers would need to be in place in the broadcast system. This would require an expenditure of funds. This is an example where equivalency can fall between the cracks unless someone has explicit responsibility for carrying it out and a means of funding accessibility maintenance and improvements.

The Commission notes that other parts of its rules, contained at 47 CFR §79.2, specify triggering events and methods for the emergency transmittal of information, and asks whether there are disparities in or conflicts between its EAS rules and those contained in Part 79.

In fact, at present, the Commission has not two, but three separate sets of rules that cover the notification of people with hearing and vision disabilities in the event of an emergency. The oldest of these, promulgated in 1978, covers television broadcasts only and is contained at 47 CFR 73.1250(h). This rule seems to only cover broadcasts, and requires emergency information to be transmitted "both aurally and visually or only visually," and allows stations to use "any method of visual presentation which results in a legible message conveying the essential emergency information."

EAS rules, which are contained at Part 11 and extend to both broadcast and cable stations, can supercede the above broadcasting rule where necessary. EAS is to be used for national emergencies as determined by the President. It may also be activated at the local level for "day-to-day emergency situations posing a threat to life and property."

In 2000, the FCC issued yet another set of regulations covering emergency programming notification. These rules cover all video programming, including broadcast, cable and satellite services. While the scope of all three of the above regulations are similar – covering extreme weather situations such as floods, hurricanes, earthquakes, as well as civil disorders, toxic gas leaks and other man-made disorders,[4] the language of both the broadcasting rule and the EAS rules seems to stop at information needed to protect *life and property*, while the language of the programming accessibility rule at Part 79 extends to information intended to further the protection of *safety and health* as well.

In addition, only the Part 79 emergency accessibility rules specifically require that information about the critical details of an emergency be made accessible, including information on how to respond to the emergency, evacuation orders, shelters, road closures and securing assistance. By contrast, the EAS rules seem to require only that the visual message contain "the Originator, Event, Location, and the valid time period of the EAS message,"[5] and the 1978 broadcasting requirement is silent on this issue.

A third difference between the three rules is that only the Part 79 rules apply to all video programming distributors, regardless of their size, subscriber base, or transmission format. The EAS rules are divided by the number of individuals subscribed to a cable

[4] 47 CFR §73.1250(a); 47 CFR §11.55(a); 47 CFR §79.2(a)(2).
[5] 47 CFR §§11.51(g)(2),(3); 47 CFR §11.51(h)(3).

system, with smaller systems – systems having under 5000 subscribers having a lesser obligation. These smaller systems must only provide a video interruption and audio alert message on all channels, while systems with 5000 or more subscribers must provide their EAS messages aurally and visually on all of their channels.[6]

The discrepancies and disparities in these three sets of rules need to be reconciled in order to ensure that Americans who are deaf, hard of hearing, blind and low vision have the information they need to adequately respond in an emergency. The problem with leaving the rules as they now exist can be shown by what would happen in the event of a national emergency. Although the emergency accessibility rules contained in Part 79 would require *all* cable providers to make all critical details concerning that emergency visually accessible, under the EAS rules, the national activation of a Presidential message would "take priority over any other message and preempt it if it is in progress."[7] In addition, all television broadcast network program distribution facilities would need to be reserved exclusively for the distribution of that message.[8] The danger here is that even though the rules under Part 79 may be more suited to providing people with disabilities more comprehensive information in the event of a national emergency, as written, the EAS rules would preempt those rules.

It is critical that the FCC reconcile the differences contained in these three sets of rules in a manner that is designed to apply the broadest range of protection and coverage for individuals who are deaf, hard of hearing, blind and vision impaired. It appears that

[6] 47 CFR 1151. The audio alert must state which channel is carrying the EAS video and audio message. These cable systems must also transmit a visual EAS message on at least one channel.
[7] 47 CFR 11.44(a). In addition, television broadcast network program distribution facilities must be reserved exclusively for the distribution of that message.
[8] 47 CFR 11.44(d).

the FCC's Part 79 programming accessibility requirements are the widest in scope and coverage, both in terms of triggering events and transmission methods, and we would suggest that the FCC look to these in an attempt to bring all three rules in accord with one other. But as the FCC goes about this process, it should take note of the fact that existing rules for individuals who are blind remain largely inadequate. Even under the Part 79 rules, emergency information that is not part of a regularly scheduled newscast or which interrupts regular programming must only be accompanied by an aural tone. Individuals who hear this tone may not know what it means, yet there is no additional requirement to direct these viewers about what they need to do once they hear the tone. In addition, it may be that there are no alternatives to television for obtaining additional information, if other sources have gone down or been temporarily disabled.

Moreover, when the FCC promulgated its Part 79 rules, it was reluctant to require all emergency information to be provided via closed captions, out of concern that there were limited real-time captioning resources. Over the past few years, these resources have continued to grow, filling gaps that used to exist. We recommend that any new rules on emergency programming make clear that captioning is needed to fully and effectively convey televised emergency information. Although closed captioning may suffice, it is preferable that such information be provided in an open caption format. This will ensure that hard of hearing people, and in particular senior citizens who may not have their captions turned on, will receive the intended messages.

G. Other Issues

Improved enforcement of the accessibility provisions of the EAS as well as Section 79.2 mandates , along with a consistent system of alerting nationwide, will be

necessary to ensure effective and comprehensive access to emergency information in the future. History has shown that lack of access to emergency messages has not been treated as a serious breach of policy by the Commission and without more attention to these issues, we will continue to see an absence of visual and audio information needed to ensure that everyone has equal access to this vital information.

Community education about the EAS is needed, and efforts at public education must be accessible. This includes making materials available in alternate formats.

Conclusion

Virtually every decision point on the EAS will have an effect on the ability of people with disabilities to obtain emergency information on an equitable basis with those who do not have disabilities. The expansion of emergency alerting into technologies that Americans use today will benefit people with disabilities by providing a choice of modality and reaching them wherever they are. Attention to accessibility provisions for broadcast technologies and cable is needed for even basic access to today's alerts.

We commend the Commission for addressing the need to upgrade the EAS and make it more useful to the American public, including people with disabilities.

Respectfully Submitted,

s/

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